

Serial No. 10/069,732

ASA-1074

Amendment

Response to Advisory Action mailed February 13, 2009

REMARKS**Pending Claims**

Claims 18-21 are pending in this application. Claim 22 has been canceled without prejudice or disclaimer. Claims 19-21 have been amended. No new matter has been added.

Drawings

The drawings are objected to under 37 C.F.R. 1.83(a). The objection to the drawings is overcome by noting that Figure 11 shows the claimed means for controlling of claim 18.

In particular, Figure 11 shows a phase plate 111 as part of an optical device described on page 34, beginning at line 25 of the Specification. The phase plate 111 is effective for determining the shape of the focused light spot. The phase plate has a division line approximately in the center of the beam to add a phase difference of a half wave length at its left part and its right part. Thereafter, the beam is bent toward the recording medium 114 with a mirror 112 and is condensed onto the recording film surface with an objective lens 113.

Figure 12 shows the shape of the resultant light spot, which becomes a so-called two-headed spot. The thermal distribution is shaped as indicated by reference numeral 122 and the shape of the heated area with respect to the track is controlled, as a result. That is, the magnetic head is inclined to the left in the inner circumference side of the recording medium and is inclined to the right in the outer circumference side. The degree of inclination is made in accordance with the direction of the

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magnetic flux detecting device, i.e. in accordance with the position of swing arm 102.

Accordingly, the drawing objection should be withdrawn.

Claim Objections

Claim 22 is objected to under 37 C.F.R. § 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claim 22 has been canceled without prejudice or disclaimer for being directed to a non-elected invention. Accordingly, the claim objection is rendered moot.

Additionally, applicants have amended the preamble of dependent claims 19-21 to properly coincide with the preamble of claim 18.

Claim Rejections under 35 U.S.C. §112

Claim 22 is rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Claim 22 has been canceled without prejudice or disclaimer for being directed to a non-elected invention. Accordingly, the rejection is rendered moot.

Claims 18-22 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Claims 18-22 are also rejected under 35 U.S.C. §112, second paragraph, as failing to set forth the subject matter of the invention. Applicants request reconsideration of the rejection because the claimed means for controlling of claim 18 is supported by the elected embodiment of the invention to which the claim is directed. The support is set forth in reply to the

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drawing objection. Therefore, applicants respectfully request that the rejection be withdrawn.

The rejection under 35 U.S.C. §112, second paragraph, should be withdrawn for the same reasons.

Claim Rejections under 35 U.S.C. §102 & §103

Claims 18-22 are rejected under 35 U.S.C. §102(a/b) as being anticipated by, or in the alternative, under 35 U.S.C. §103(a) as being obvious over Murakami et al., U. S. Patent No. 6,091,673, further considered with the acknowledged prior art.

The Murakami reference is relied upon for disclosing a magneto-optical system including an optical head (1) that heats a recording medium by irradiating a laser spot. However, Murakami does not disclose the claimed means for controlling an orientation of a shape of a heated area with respect to the track according to a radial position on the disk so that the orientation is coincident with a longitudinal direction of the magnetic flux detecting means according to the track, as set forth in claim 18.

Murakami provides an optical spot that is circular. This means that the shape of the heated area is circular. The orientation of a circular shape does not change with respect to a track according to a radial position. That is, the circular shape remains circular as the radial position varies. Applicants have identified a problem with a circular shaped heated area, which occurs as a result of the direction of the magnetic wall of the recorded magnetic domain that is produced. This problem is overcome by providing the means for controlling the orientation of the shape of the heated area as

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set forth in claim 18. This is not disclosed or rendered obvious by Murakami.

More specifically, according to the present invention, the magnetic domain shape that is formed on the medium is crescent shaped, and the orientation of the crescent shape is changed or controlled by controlling the orientation of the shape of the heated area. The heated area is not circular in the present invention, but rather has a shape like that shown in Fig. 12. *See* heated area or thermal distribution area (122). The orientation of the shape of the heated area is controlled as a result of the focused optical spot that produces the heated area changing its orientation as the swing arm rotates side to side. This does not occur for a circular shaped heated area.

The Examiner has taken the position that the claimed means for controlling the orientation of a shape of the heated area is inherently present in Murakami. However, Murakami discloses forming a circular shape of the heated area in which the orientation does not change. Therefore the orientation of the heated area and consequent orientation of the crescent shape of the magnetic domain cannot be coincident with the longitudinal direction of the magnetic flux detecting means in Murakami.

Fig. 4 of the present application shows a crescent shape magnetic domain resulting from a circular heated area, in which the direction of the magnetic wall of the recorded magnetic domain and the direction of the magnetic flux detecting means are not in accord with each other at the innermost circumference and the outermost circumference of the tracks. One having ordinary skill in the art would expect the same result with Murakami.

Since Murakami does not provide any discussion regarding the forming of the optical spot shape, i.e. the shape is just circular, Murakami does not inherently

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disclose controlling an orientation of a shape of the heated area with respect to the track in the manner set forth in claim 18. Accordingly, the claimed controlling means is not inherent in the Murakami reference. Further, one having ordinary skill in the art would not be motivated from the Murakami disclosure to provide the controlling means set forth in claim 18 since the reference is silent with respect to forming an optical spot shape that produces a heated area with a shape having an orientation that can be controlled. Accordingly, the rejection under 35 U.S.C. §102 and 103 should be withdrawn.

New Claim

Applicants have added new claim 24 setting forth that the shape of the heated area is controlled by the means for controlling the orientation of the shape of the heated area to be non-circular such that the orientation of the shape of the heated area with respect to the track changes from the innermost circumference to the outermost circumference of the disk. Support for claim 24 is provided by Fig. 12 which shows non-circular thermal distribution 122. None of the art of record shows the claimed means for controlling the orientation of the shape of the heated area to be non-circular as set forth in claim 24. Accordingly, claim 24 is patentable over the art of record.

Request for Continued Prosecution

Applicants have filed an RCE with the present amendment to ensure entry of the foregoing amendment and reconsideration of the outstanding objection to the drawings and rejection of the claims.

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Conclusion

In view of the foregoing, Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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